

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PU030309	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/US04/41086	International filing date (day/month/year) 08 December 2004 (08.12.2004)	Priority date (day/month/year) 08 December 2003 (08.12.2003)	
International Patent Classification (IPC) or national classification and IPC IPC(7): H04N 7/00, 11/00 and US Cl.: 348/468, 555			
Applicant THOMSON LICENSING S.A.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>6</u> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 15 June 2005 (15.06.2005)		Date of completion of this report 17 August 2005 (17.08.2005)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer M. Lee <i>Kenai</i> Telephone No. 703-306-0377	

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/41086

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-12 as originally filed/furnished
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☒ the claims:
- pages NONE as originally filed/furnished
- pages* NONE as amended (together with any statement) under Article 19
- pages* 13-18 received by this Authority on 15 June 2005 (15.06.2005)
- pages* NONE received by this Authority on _____
- ☐ the drawings:
- pages 1-3 as originally filed/furnished
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/41086**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)

Claims 1-17 YES

Claims _____ NO

Inventive Step (IS)

Claims 1-17 YES

Claims _____ NO

Industrial Applicability (IA)

Claims 1-17 YESClaims NONE NO**2. Citations and Explanations (Rule 70.7)**

Claims 1-17 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest processing step as recited in claim 1, the closed caption data processor as recited in claim 5, the means connected to the means for processing as recited in claim 9, the determining and processing steps as recited in claim 14.

Claims 1-18 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

----- NEW CITATIONS -----

Form PCT/IPEA/409 (Box No. V) (January 2004)

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CLAIMS

1. A method of processing a digital television signal comprising the steps of:

5 (a) receiving a digital television signal having closed caption data;

(b) processing the closed caption data according to a digital closed caption data standard if it is determined that the closed caption data of the received digital television signal is in a digital closed caption standard format, else processing the closed caption data according to an analog closed caption data standard if it is determined that the closed caption data of the received digital television signal is in an analog closed caption standard format; and

10 (c) providing a resulting television signal from the received digital television signal and the processed closed caption data that is suitable to show the processed closed caption data on a display.

2. The method of claim 1 wherein the step of processing the closed caption data according to a digital closed caption data standard if it is determined that the closed caption data of the received digital television signal is in a digital closed caption standard format else processing the closed caption data according to an analog closed caption data standard if it is determined that the closed caption data of the received digital television signal is in an analog closed caption standard format includes:

25 processing the digital closed caption data according to EIA-70B digital closed caption data standard; and

processing the analog closed caption data according to EIA-608 analog closed caption data standard.

3. The method of claim 1, wherein the step of processing the closed caption data according to a digital closed caption data standard if it is determined that the closed caption data of the received digital television

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signal is in a digital closed caption standard format else processing the closed caption data according to an analog closed caption data standard if it is determined that the closed caption data of the received digital television signal is in an analog closed caption standard format includes:

5. monitoring the digital television signal having closed caption data for digital closed caption data packets in conformance with the digital closed caption standard format and for analog closed caption data packets in conformance with the analog closed caption standard format.

- 10 4. The method of claim 1, wherein the step of receiving a digital television signal having closed caption data comprises tuning to a digital television signal having closed caption data.

5. A television signal receiver comprising:

- 15 a digital tuner operable to receive a digital television signal containing closed caption data;

a digital television signal processor connected to said digital tuner and operable to obtain a video signal and extract the closed caption data from the digital television signal; and

- 20 a closed caption data processor connected to said digital television signal processor and operable to i) determine whether the extracted closed caption data is formatted according to a digital closed caption data standard or according to an analog closed caption data standard, ii) process the extracted closed caption data in accordance with the digital closed caption data standard if it is determined that the closed caption data is formatted
- 25 according to a digital closed caption data standard else process the closed caption data in accordance with the analog closed caption data standard if it is determined that the closed caption data is formatted according to an analog closed caption standard, and iii) provide a resulting closed caption
- 30 data signal suitable for showing the closed caption data on a display.

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6. The television signal receiver of claim 5, wherein said closed caption data processor is operable to process the digital closed caption data according to the EIA-708 digital closed caption data standard and to process the analog closed caption data according to the EIA-608 analog closed caption data standard.

7. The television signal receiver of claim 5, further comprising:
a buffer connected to the closed caption processor and the digital television signal processor and operable to combine the resulting closed caption data signal from the closed caption data processor with the video signal from the digital television signal processor for showing the combined television signal on the display.

8. The television signal receiver of claim 5, wherein the closed caption data processor is operable to continuously monitor the tuned digital television signal for determining whether the closed caption data is formatted according to a digital closed caption data standard or according to an analog closed caption data standard.

9. A television signal receiver comprising:
means for receiving a digital television signal containing closed caption data;
means, connected to said means for receiving, for processing the received digital television signal to obtain a video signal and extract the closed caption data; and
means, connected to said means for processing, for i) determining whether the extracted closed caption data is formatted according to a digital closed caption data standard or according to an analog closed caption data standard, ii) processing the extracted closed caption data in accordance with the digital closed caption data standard if it is determined that the closed caption data is formatted according to a digital closed caption data standard

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else process the closed caption data in accordance with the analog closed caption data standard if it is determined that the closed caption data is formatted according to an analog closed caption standard, and iii) providing a resulting closed caption data signal suitable for showing the closed caption data on a display.

10. The television signal receiver of claim 9, wherein said means for i) determining whether the extracted closed caption data is formatted according to a digital closed caption data standard or according to an analog closed caption data standard, ii) processing the extracted closed caption data in accordance with the digital closed caption data standard if it is determined that the closed caption data is formatted according to a digital closed caption data standard else process the closed caption data in accordance with the analog closed caption data standard if it is determined that the closed caption data is formatted according to an analog closed caption standard, and iii) providing a resulting closed caption data signal suitable for showing the closed caption data on a display includes:

means for processing the digital closed caption data according to the EIA-708 digital closed caption data standard, and

means for processing the analog closed caption data according to the EIA-608 analog closed caption data standard.

11. The television signal receiver of claim 9, further comprising:

means, connected to the closed caption processing means and the

means for processing the digital television signal, for combining the resulting closed caption data signal with the video signal for showing the combined television signal on the display.

12. The television signal receiver of claim 9, wherein the closed caption processing means is further operable to continuously monitor the tuned digital television signal for determining whether the closed caption data

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is formatted according to a digital closed caption data standard or according to an analog closed caption data standard.

13. A method of processing auxiliary information included in a television signal comprising the steps of:

- (a) receiving a digital television signal including auxiliary information;
- (b) determining a format of the auxiliary information; and
- (c) processing the auxiliary information in accordance with a digital auxiliary information standard in response to determining that the auxiliary information comprises data in a digital format, else processing the closed caption data in accordance with an analog auxiliary information standard.

14. A method of processing auxiliary information included in a television signal comprising the steps of:

- (a) receiving a digital television signal including auxiliary information;
- (b) determining the format of the auxiliary information;
- (c) selecting a priority for processing the format of the auxiliary information; and
- (d) processing the auxiliary information in accordance with a format of the auxiliary information and with a priority for processing the format of the auxiliary information.

15. The method of claim 14 wherein the step of processing the auxiliary information occurs in response to determining that the auxiliary information comprises a digital auxiliary information format and selecting a priority for enabling processing of auxiliary information in a digital auxiliary information format and for disabling processing of auxiliary information in an analog auxiliary information format.

16. The method of claim 14 wherein the selected priority comprises one of: a) a digital only priority for enabling processing of the auxiliary

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information only in response to determining that the format of the auxiliary information corresponds to a digital auxiliary information format, b) an analog only priority for enabling processing of the auxiliary information only in response to determining that the format of the auxiliary information

5 corresponds to an analog auxiliary information format, and c) an any available format for enabling the processing of the auxiliary information in either the digital or analog auxiliary information formats.

10 17. The method of claim 14 wherein the selected priority comprises processing auxiliary information in a digital auxiliary information format in response to determining that the received auxiliary information includes auxiliary information in a digital auxiliary information format and auxiliary information in an analog auxiliary information format.

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